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AUTHOR Keith, Patricia B.; And Others
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ABSTRACT

This study investigated students with specific learning disabilities (SLD), serious emotional disturbances (SED), and educable mental retardation (EMR) to determine if class size and class mix influence educational outcomes. A total of 110 students in 12 classrooms were included in the sample, which included classes with waivers (classes out of compliance with Virginia standards) for class size or class mix; waivered classes with SLD, SED, and EMR students; and classes in compliance with Virginia standards (non-waivered classes). Four academic achievement areas and nine affective areas were used as educational outcomes in the quantitative and qualitative research. Results indicated that student achievement is affected by class size; students in single disability classes appeared to have higher reading, math, and social studies achievement than students who were mixed with other disabilities; students in non-waivered classes had better general behavior and were making more progress toward their educational goals than students in waivered classes; student self-concept, motivation level, time on task, educational aspirations, liking of special education classes, and awareness of special education placement were not significantly different in waivered versus non-waivered classes; and teaching methods were not significantly different. (JDD)

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Investigating the Influences of Class Size and Class Mix on Special Education Student Outcomes: Phase One Results

Patricia B. Keith, Timothy Z. Keith,

Diane A. Young, and Jimmie C. Fortune

Virginia Polytechnic Institute and State University

Blacksburg, Virginia

Patricia Abrams

Virginia Department of Education, Special Education

Richmond, Virginia

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Correspondence should be sent to Patricia B. Keith, Virginia Tech, AES, Blacksburg, VA 24061-0302, Bitnet ID:PBKEITH at VTVM2.

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Investigating the Influences of Class Size and Class Mix on Special Education Student Outcomes: Phase One Results

It is time to investigate the manipulable influences on the academic achievement of students receiving special education services. Student-teacher ratios (class size) and instructional grouping arrangements (class mix) are two variables which may influence academic achievement and other educational outcomes (Walberg, 1986). These variables are alterable; class size and class mix can be changed. This research investigates students with specific learning disabilities (SLD), serious emotional disturbance (SED), and educable mental retardation (EMR) to determine if class size and class mix influence educational outcomes.

Method

A two phase research design was used in this research. Phase one was designed to be exploratory in nature, to assist in generating hypotheses to be verified in Phase two and to provide some preliminary answers to the research questions.

During the spring of 1992, Phase 1 data was collected by specially trained teams of educators (researchers, graduate students, public school administrators and teachers, parents, and Department of Education personnel). These twenty-six individuals conducted structured interviews with directors of special education, school principals, special and general

education teachers, parents, and students with disabilities. Classroom observational data along with complete record reviews were also done. The teams gathered qualitative and quantitative information in four local education agencies (LEA's) in the Commonwealth of Virginia.

A three-stage stratified sampling design was employed to select sites (twelve classroom; N = 110 students). Stratification was based on LEA's having waivers (classes out of compliance with State standards) for class size or class mix; LEA's having SLD, SED, and EMR students in waivered classes; and LEA's having similar control classes (classes in compliance with State standards).

Four academic achievement areas (reading, math, science, and social studies) and nine affective areas (self concept, motivation, general behavior, time on task, educational aspirations, progress toward IEP goals, contentment in special education, and awareness of special education class placement.) were used as educational outcomes.

Analysis

A number of research methods were used to analyze Phase 1 data. Quantitative methods used included: factor analysis, t-tests, nonparametric sign tests, correlational and descriptive analysis, crosstabs, and validity and reliability assessments. Qualitative methods used were: unordered meta-matrix, content analysis, and case study analysis.

Results and Discussion

The results of Phase 1 data analysis should be viewed with caution. The sample from which the data was drawn is small and may not be representative of the Commonwealth of Virginia. Furthermore, the purpose of Phase 1 was to provide preliminary information and to guide the future direction of the research project (Phase 2). Nevertheless, many findings are intriguing.

Effects of Class Size on Student Outcomes

Students' achievement is affected by class size. It appears that the larger the special education class size the lower the academic achievement in reading, math, and social studies. This finding held for students classified as EMR and SLD; for EMR and SLD students, science achievement was also influenced by class size. There were not enough SED students in the sample to determine if size influenced achievement. Phase two, with a random sample of over one thousand students with disabilities will confirm or disconfirm these findings.

Effects of Mixing Students with Different Disabilities

Students in single disability classes (not mixed) appear to have higher reading, math, and social studies achievement than students who are mixed with other disabilities. Students in non-waivered classes had better general behavior and were making more progress toward their IEP goals than students in waivered classes. Yet students' self concept, motivation

level, time on task, educational aspirations, liking of special education classes, and awareness of special education placement were not significantly different in waivered vs. non-waivered classes. Teaching methods and student time on task were not significantly different in waivered vs. non-waivered classes.

Research Implications

These research results have educational and scientific implications. First, they broadening the research basis for understanding the influence of class size on educational outcomes of special education students. Second, they contribute research data about a current special education trend - non-categorical placement of special education students.

These preliminary results suggest that for some special education students class size and non-categorical placement negatively influences educational outcomes. Phase two results should clarify these initial discoveries.

Methologically, many interesting trends were evident among persons interviewed. Special education teachers appear to provide valid estimates of students' academic motivation, behavior, self-concepts, and other non-academic student characteristics. Also, special educations teachers' estimates of students' academic achievement correlated highly with test results (r's = .88 - .94). These correlations were based on test results and special education teacher reports. Special education teachers' ratings

generally loaded more highly on such factors than did parent, student, or general education teacher ratings. Parents provided information that was consistent with, and in many ways redundant with, that provided by special education teachers. General education teachers were less able to provide useful information about students, perhaps because they do not know special education students as well as do parents and special education teachers. Students' responses were clouded by the great variability in students' ability to understand the interview questions.

Although these results are preliminary, they do suggest that the learning of students with mild disabilities can be improved through reduction of class size. Furthermore, those students may also profit from being grouped with students with similar disabilities. Results from Phase 2 will provide additional information about the effects of class size and class mix on students' educational outcomes.

References

Walberg, H. J. (1986). Synthesis of research on teaching. In M. C. Wittrock (Ed.), Handbook on research on teaching (3rd ed., pp. 214-229). New York: MacMillian.